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How to install the

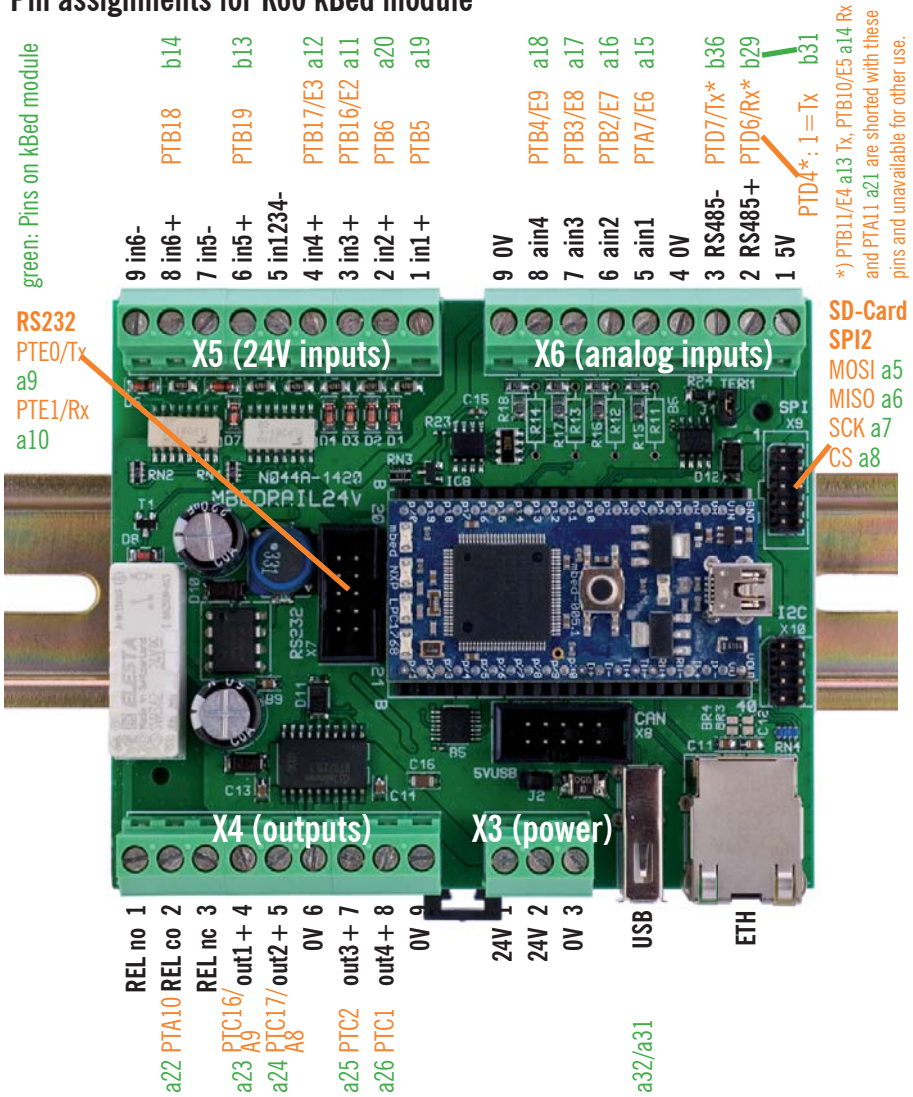
(Rev. 1420) Walter L. Giesler 29.8.2014

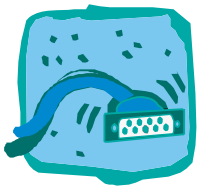
NET-mbedRAIL24V

industrial breakout board

mbedRail24V attempts to make all of LPC1768 module's i/o available for industrial use in a DIN-rail module.
(Even more i/o are available when using our kBed Kinetis K60 module...)

Pin assignments for K60 kBed module





Power and I/O

All terminals named 24V are interconnected and all terminals named 0V.

Power requirements:

24V (19..28V): 50mA (all i/o passive), fused at 8A max.

Ambient temperature -40..+50°C

24V outputs switch 1A max. (high side), connect load to ground.

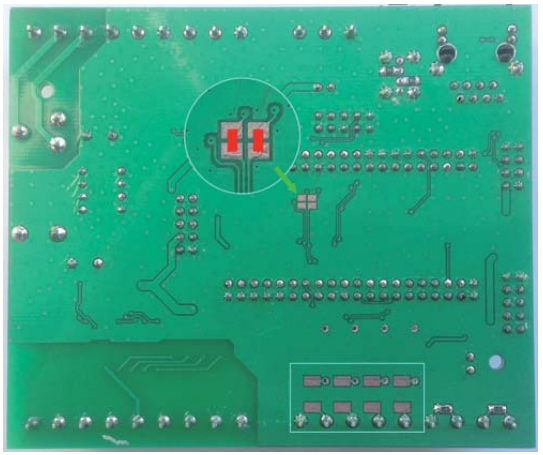
24V inputs (optoisolated) draw less than 20mA from 24V. In 5 and in 6 are bi-directional.

Relay output 60VDC/48VAC @ 8A max.

Analog inputs 0..10V. For 0..20mA add load resistors (100 Ohms/0.5W) in R11..R14 on assembly side and 150 Ohms/2W 2512 resistors to R19..22on solder side in area marked with rectangle below.

Settings

*Due to a lack of pins on the LPC1768 mbed, in5 and in6 can only be used if I²C is not used.
If you don't need I²C, make two solder joints on the bottom of the pcb as marked in red here. Our kbed module is an alternative to use I²C and all 6 inputs.



Software Setup

If you ordered a kBed with this board, it comes with the "FullDemo" application fitted in Flash, will get an IP address via DHCP and shows its features on the built-in webpages. To find out the device IP, use the ELZET80 network discovery tool available by email. Attach an RS232 terminal set to 115,200bit/s to X7 as the debug port.

The SD-card adapter (not shown here) is supported by the standard file system.

Please ask for special application base boards - either for LPC1768 mbed or our Kinetis K60 kBed